IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) A method of utilizing a performance monitor cell for distributed optical performance monitoring in a network, comprising:

selecting a frequency range based on network traffic protocol and transmission rate;

tapping a portion of a signal in the network;

converting the portion of the signal to a digital signal;

sampling a plurality of points in the digital signal continuously at a frequency;

determining an average power of the plurality of points;

generating a spectrum in frequency domain utilizing a Fast Fourier Transform;

generating a noise spectrum density from the spectrum and the frequency range; and

calculating an optical signal to noise ratio (OSNR) from the noise spectrum density and the average sampled points, wherein the optical signal noise ratio is used to determine the performance of the network.

2. (Original) The method of Claim 2, further comprising computing an average optical power from a pre-saved calibration table.

3. (Currently Amended) A method of utilizing a performance monitor cell for distributed optical performance ~~monitor~~ monitoring in a network, comprising:

tapping a portion of a signal in the network and converting the portion of the signal to a digital signal;

sampling a plurality of points in the digital signal;

calculating a noise spectrum density from a spectrum and a frequency range based on network traffic protocol and transmission rate; and

calculating an optical signal to noise ratio (OSNR) from the noise spectrum density and a predetermined calibration data, wherein the optical signal noise ratio is used to ascertain the performance of the network.

4. (Original) The method of Claim 3, prior to the calculating step, further comprising computing a Fast Fourier Transform and obtaining a spectrum in frequency domain.

5. (Original) The method of Claim 4, prior to the computing of the spectrum frequency domain, further comprising computing an average power of the plurality of points.

6. (Original) The method of Claim 5, prior to the computing step of the average power of the plurality of points, further comprising sampling a plurality of points continuously at a frequency.

7. (Cancelled)

8. (Original) The method of Claim 3, wherein the computing of the OSNR is based on the following equation:

$$OSNR = \frac{P_{sig}}{P_{ase}} \frac{B_o}{R}$$

where the symbol "P_{sig}" denotes a signal power, the symbol "P_{ase}" denotes an Amplified Spontaneous Emission (ASE) power, the symbol "B_o" denotes a filter band width, and the symbol "R" denotes a wavelength resolution.

9. – 14. (Cancelled)

15. (Currently Amended) A method of utilizing a performance monitor cell to monitor a channel in a multiplexer, comprising:

tapping a portion of a signal from the channel and converting the portion of the signal to a digital signal;

sampling a plurality of points in the digital signal continuously at a frequency;

determining an average power of the plurality of points;

calculating a noise power density ~~of the plurality of points~~, wherein the noise power density is calculated by utilizing a spectrum in a frequency domain and a selected frequency range based on traffic protocol and transmission rate; and

determining an optical signal to noise ratio (OSNR) from the noise spectrum density and the average sampled points, wherein the optical signal noise ratio is used to ascertain the performance of the multiplexer.